

CLAIMS

- Sub A1
1. Rigid material based on PPO and an aromatic vinyl resin with improved impact strength comprising:
- 5 • 99 to 20% of a resin (A) consisting of a mixture of PPO and of an aromatic vinyl resin,
 - 1 to 80% of an impact modifier comprising at least one block copolymer S-B-M in which:
 - 10 ➤ each block is linked to the other by a covalent bond or an intermediate molecule linked to one of the blocks by a covalent bond and to the other block by another covalent bond,
 - M consists of MMA monomers optionally copolymerized with other monomers and comprises at least 50% by weight of methyl methacrylate (MMA),
 - 15 ➤ B is incompatible with the resin (A) and with the M block and its glass transition temperature T_g is less than the temperature for using the rigid material,
 - S is incompatible with the B block and the M block and its T_g or its melting point m.p. is greater than the T_g of B,
 - 20 ➤ S is compatible with the resin (A).
2. Material according to Claim 1, wherein the M blocks consist of syndiotactic PMMA at at least 60%.
- 25 3. Material according to Claim 1, wherein the M blocks comprise reactive monomers, which include glycidyl methacrylate or tert-butyl methacrylate.
- 30 4. Material according to Claim 1, wherein the T_g of the B blocks is less than 0°C .
- Sub A2
5. Material according to Claim 4, wherein the T_g of the B blocks is less than -40°C .
- 35 6. Material according to Claim 5, wherein the B blocks consist essentially of 1,4-polybutadiene.

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- 5 19. Material according to Claim 1, wherein the impact modifier also comprises at least one triblock S-B-S selected from the linear triblocks S-B-S and the star-shaped triblocks S-B-S.

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20. Material according to Claim 1, wherein all or part of the triblock S-
10 B-M is replaced with a pentablock M-B-S-B-M.

21. Material according to Claim 1, wherein the aromatic vinyl resin constituting the resin (A) is selected from polystyrene and impact polystyrene.

- 15 22. Material according to Claim 1, wherein the PPO to aromatic vinyl
resin weight ratio is between 1/9 and 9/1.

23. Material according to Claim 22, wherein the ratio is between $3/7$ and $7/3$.

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